

**(12) UK Patent Application (19) GB (11) 2 293 875 (13) A**

**(43) Date of A Publication 10.04.1998**

**(21) Application No 9420316.3**

(22) Date of Filing 08.10.1994

**(71) Applicant(s)**

**Gazco Limited**

**(Incorporated in the United Kingdom)**

**Osprey Road, Sowton Industrial Estate, EXETER,  
Devon, EX2 7JG, United Kingdom**

**(72) Inventor(s)**

**Ian David Kingcott**

**(74) Agent and/or Address for Service**

**Craske & Co**

**Patent Law Chambers, 15 Queens Terrace, EXETER,  
EX4 4HJ, United Kingdom**

(51) INT CL<sup>6</sup>

F24C 15/24

**(52) UK CL (Edition O )**

**F4W W46A W46B**

### (56) Documents Cited

**GB 2258303 A      GB 2182131 A      GB 2068106 A**

**(58) Field of Search**

UK CL (Edition N ) F4W

INT CL<sup>6</sup> F24C 15/24

ONLINE DATABASE:WPI

**(54) Solid fuel-effect gas fires**

**(57) A decorative solid fuel-effect ceramic body (4) is positioned to define a burner aperture above an elongate burner (3). The body (4) includes shaped projections (1), the spaces (22) between the projections forming ducts directed into the burner aperture to provide a secondary air flow into the burner aperture. The air content of the flame is thereby enriched in the region of the ducts to produce a more realistic flame effect.**

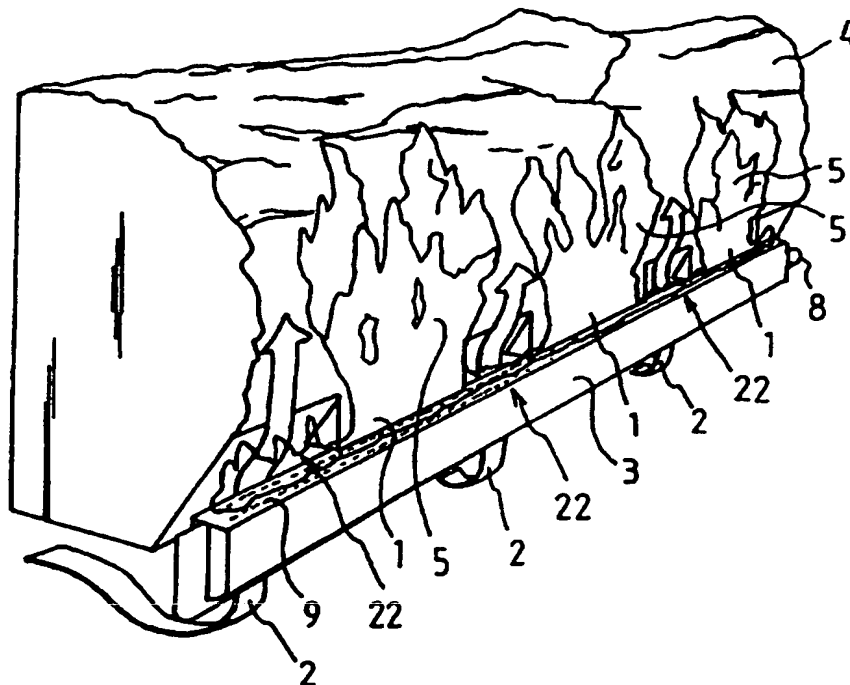


FIG 1

**Best Available Copy**

At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

**The claims were filed later than the filing date within the period prescribed by Rule 25(1) of the Patents Rules 1995**

**GB 2 293 875 A**

1/2

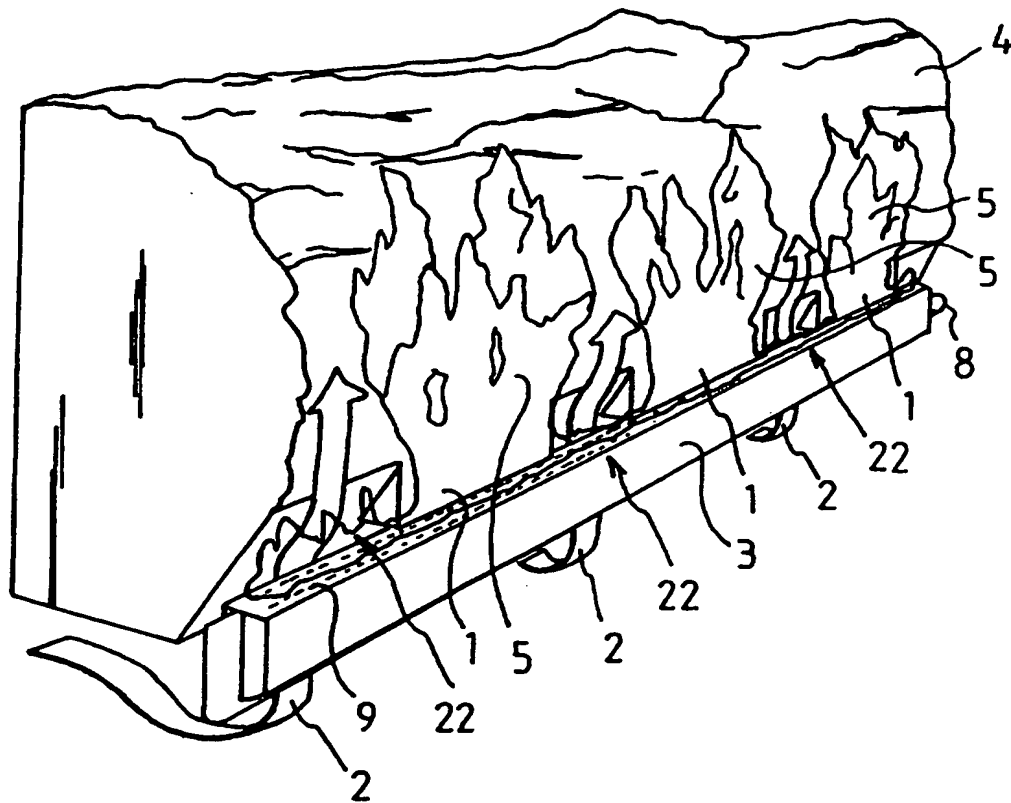


FIG 1

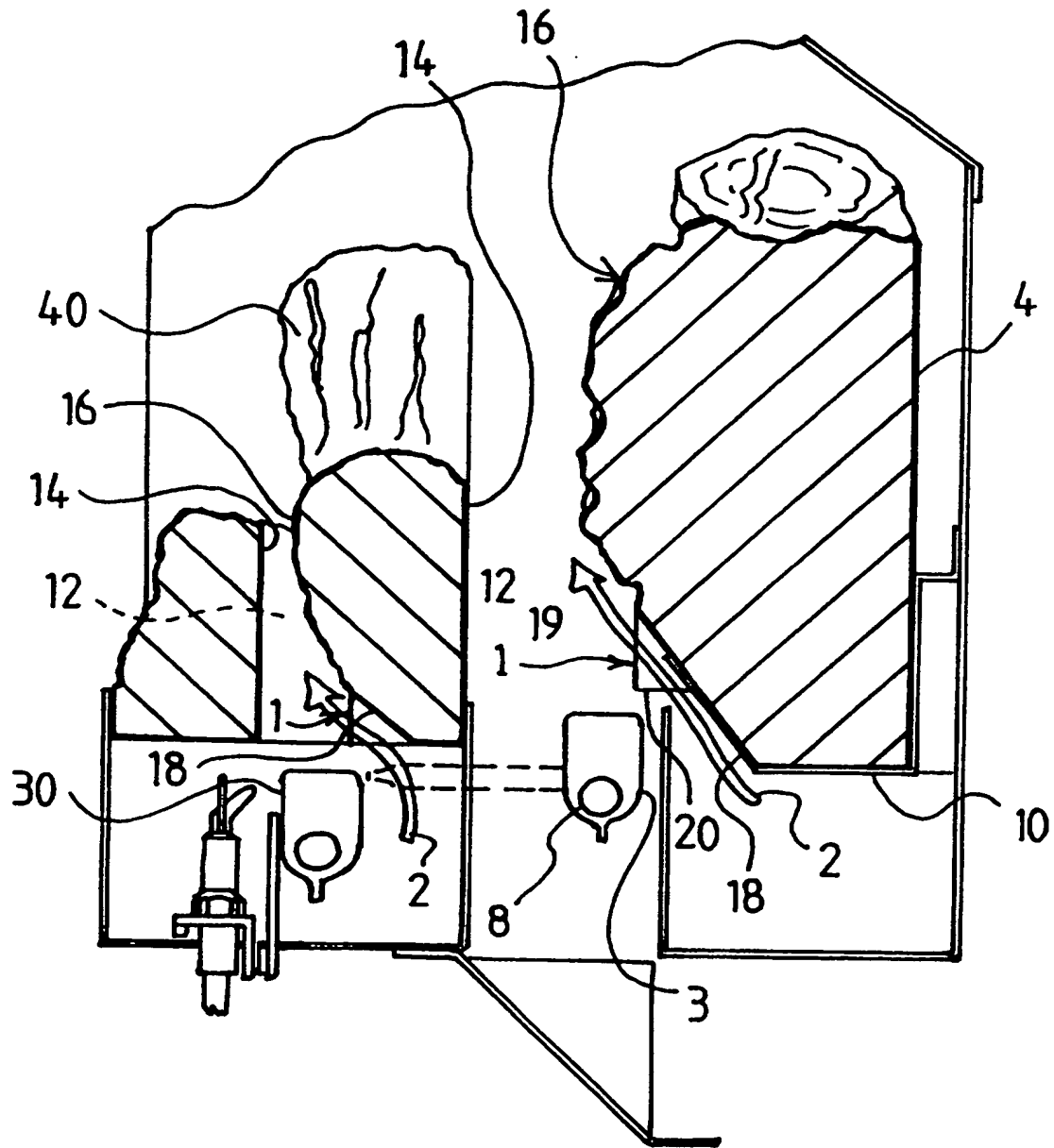


FIG 2

## **GAS FIRES**

---

### **TECHNICAL FIELD OF THE INVENTION**

This invention relates to gas fires, particularly decorative fuel-effect gas fires.

### **BACKGROUND**

In the design of decorative fuel-effect gas fires there has been much work directed towards achieving a flame which simulates as closely as possible the appearance of a traditional solid fuel fire.

An aim of the present invention may be viewed as being to devise an arrangement which is capable of providing a flame of a more realistic appearance without significantly increasing the cost and complexity of the fire.

### **SUMMARY OF THE INVENTION**

The present invention proposes a gas fire comprising an elongate burner and ceramic fuel-effect means for mounting above the burner, the fuel-effect

means defining an elongate flame aperture for registration with the burner, and in which said fuel-effect means comprises a plurality of air ducts arranged to conduct air into said flame aperture at positions spaced along said aperture.

The ducts have the effect of changing the appearance of the flame in the regions adjacent to the ducts, thereby providing a more irregular and natural appearance to the flame produced by the burner. More particularly, the flame tends to become colourless adjacent to the ducts whilst being taller and more yellow in the regions between the ducts.

For a more pronounced effect the air ducts preferably enter the flame aperture through a lower region of the flame aperture wall. The ducts may be equally spaced or spaced at differing intervals.

In order to make the ceramic body easier to cast, the ducts may be in the form of notches in the lower margin of the flame aperture wall. The notches may have an upper face which is inclined upwardly towards the burner aperture.

#### BRIEF DESCRIPTION OF THE DRAWINGS

The following description and the accompanying drawings referred to therein are included by way of non-limiting example in order to illustrate how the invention may be put into practice. In the drawings:

Figure 1 is a general view of part of a decorative fuel-effect gas fire of the invention, in use, and

Figure 2 is a section through the gas fire taken transversely through the burner and one of the ducts.

#### DETAILED DESCRIPTION OF THE DRAWINGS

Referring to Fig. 1, the gas fire includes a burner 3 of known form comprising an elongate hollow metal box provided at one end with an inlet 8 for a gas/air mixture and having an array of perforations in its top wall 9. The gas fire may be provided with one such burner, two such burners as with the front and rear burners 30 and 3 of Fig. 2, or more burners may be used if desired.

Referring to Fig. 2, one or more decorative ceramic bodies (in this case two, 4 and 40) are supported above the level of each burner 3, 30 by a metal box structure 10. The bodies 4, 40 are formed to simulate solid fuel such as logs (as shown) or coals for example. The bodies 4, 40 are shaped and arranged to define a respective elongate burner aperture 12 positioned directly above and in registration with each burner 3, 30, to receive the flame emitted by the respective burner. The surface 16 of the ceramic body to the rear of each burner aperture 12 overhangs the burner 3, 30 so that the flames play on and heat up the exposed decorative surface of the respective body. On the other hand, the surface 14 of the ceramic body to the front of each burner aperture is spaced forwardly of the burner and rises substantially vertically, clear of the frame.

The lower portion 18 of each rear face 16 slopes downwardly and rearwardly. This sloping face 18 may terminate at a higher level than the perforated top

wall 9 of the burner as in the case of the front burner 30, or it may extend below the top wall 9 as with the rear burner 3. Each sloping face 18 is provided with a series of projections 1, each having a front face 19 which rises vertically above the rear wall of the burner 3, 30, and a horizontal bottom face 20 at a level slightly higher than the perforated top wall 9. The projections 1 are mutually spaced at regular or irregular intervals, and the spaces between the projections form a series of air ducts 22 arranged to conduct air into the burner aperture 12 in a path indicated by arrows 2. This secondary air flow to the flame thereby enriches the air content of the flame in these regions.

The effect of the air ducts 22 is illustrated in Fig. 1. The secondary air flow via the ducts 22 changes the appearance of the flame in the region immediately adjacent to the ducts. As a result, the flame is virtually colourless in these areas whilst being taller and of a distinct yellow colour in the regions between the ducts. The flame is thus more realistic than could easily be achieved by the use of separate burners and/or separate burner apertures in place of each burner 3, both of which would add considerably to the manufacturing cost of the unit.

## CLAIMS

---

1. A gas fire comprising an elongate burner and ceramic fuel-effect means for mounting above the burner, the fuel-effect means defining an elongate flame aperture for registration with the burner, and in which said fuel-effect means comprises a plurality of air ducts arranged to conduct air into said flame aperture at positions spaced along said aperture.
2. A gas fire according to Claim 1, in which the air ducts preferably enter the flame aperture through a lower region of the flame aperture wall.
3. A gas fire according to Claim 2, in which the ducts are in the form of notches in the lower margin of the flame aperture wall.
4. A gas fire according to Claim 3, in which the notches have an upper face which is inclined upwardly towards the burner aperture.
5. A gas fire according to any preceding claim, in which the air ducts are disposed in the rear portion of the burner aperture wall.
6. A gas fire according to Claim 5, in which the front portion of the burner aperture wall rises substantially vertically.
7. A gas fire substantially as described with reference to the drawings.



6

**Patents Act 1977**  
**Examiner's report to the Comptroller under Section 17**  
**(The Search report)**

**Application number**  
**GB 9420316.3**

**Relevant Technical Fields**

- (i) UK Cl (Ed.N)      F4W  
(ii) Int Cl (Ed.6)      F24C 15/24

**Search Examiner**  
**M C MONK**

**Date of completion of Search**  
**12 DECEMBER 1995**

**Databases (see below)**

(i) UK Patent Office collections of GB, EP, WO and US patent specifications.

**Documents considered relevant following a search in respect of Claims :-**  
**ALL**

(ii) **ONLINE DATABASE: WPI**

**Categories of documents**

- |                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>X:</b> Document indicating lack of novelty or of inventive step.</p> <p><b>Y:</b> Document indicating lack of inventive step if combined with one or more other documents of the same category.</p> <p><b>A:</b> Document indicating technological background and/or state of the art.</p> | <p><b>P:</b> Document published on or after the declared priority date but before the filing date of the present application.</p> <p><b>E:</b> Patent document published on or after, but with priority date earlier than, the filing date of the present application.</p> <p><b>&amp;:</b> Member of the same patent family; corresponding document.</p> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Category	Identity of document and relevant passages		Relevant to claim(s)
A	GB 2258303 A	(VALOR) consider whole document	1 at least
X	GB 2182131 A	(NIGEL CORRY) spacer elements (58, 60, 62, 64)	1 at least
X	GB 2068106 A	(VALOR) see 4", Figure 3	1 at least

**Databases:** The UK Patent Office database comprises classified collections of GB, EP, WO and US patent specifications as outlined periodically in the Official Journal (Patents). The on-line databases considered for search are also listed periodically in the Official Journal (Patents).

**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

☒ **BLACK BORDERS**

☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**

☒ **FADED TEXT OR DRAWING**

☒ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**

☐ **SKEWED/SLANTED IMAGES**

☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**

☐ **GRAY SCALE DOCUMENTS**

☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**

☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**

☐ **OTHER:** \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.